Psychological Health Screening of Remotely Piloted Aircraft (RPA) Operators and Supporting Units

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ABSTRACT

As a result of the effectiveness of remotely piloted aircraft (RPA), the operational tempo of the MQ-1 Predator and MQ-9 Reaper has surged over the past decade in support of combat operations. Line leadership and flight medicine providers have raised questions about the impact that such operations have on the psychological disposition of operators tasked with supporting combat air patrols (CAPs) 24 hours a day, 365 days a year. To answer that question, 600 Predator/Reaper operators, 264 Global Hawk operators, and 600 noncombatant airmen supporting RPA operations completed the Malasch Burnout Inventory-General Scale (MBI-GS). They also completed self-report items assessing demographic information, as well as levels and sources of occupational stress. The results of the study revealed the main sources of occupational stress were operational (i.e., long hours, low manning, shift work, human-machine interface difficulties, geographical location of work, concerns regarding career profession and incentives). Compared to noncombatants, Predator/Reaper operators had a higher incidence of emotional exhaustion while levels of cynicism (negative work attitude) and professional efficacy were lower. Global Hawk operators scored the highest on levels of emotional exhaustion and cynicism for all groups. The results of this study suggest there is a high incidence of emotional exhaustion/fatigue among RPA operators as a group in comparison to noncombatant airmen. Efforts to reduce occupational burnout should focus on operational stressors and be equally devoted to weapon- and nonweapon-deploying RPA operators.

1.0 INTRODUCTION

Among the variety of United States Air Force (USAF) remotely piloted aircraft (RPA), the MQ-1 Predator and MQ-9 Reaper airframes have emerged as significant weapon-bearing aircraft in support of aerial intelligence, surveillance, reconnaissance (ISR) and close air support (CAS) operations. Due to the advances in aerial, satellite, and computer-based technology, RPA Predator and Reaper crew members (pilot, sensor operator, and mission intelligence coordinator) can operate such aircraft without having to deploy to combat zones or areas of conflict. The remote nature of such operations shields operators from the traditional threats to personal safety and minimizes lengthy separations from their families.

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14. ABSTRACT

As a result of the effectiveness of remotely piloted aircraft (RPA), the operational tempo of the MQ-1 Predator and MQ-9 Reaper has surged over the past decade in support of combat operations. Line leadership and flight medicine providers have raised questions about the impact that such operations have on the psychological disposition of operators tasked with supporting combat air patrols (CAPs) 24 hours a day, 365 days a year. To answer that question, 600 Predator/Reaper operators, 264 Global Hawk operators, and 600 noncombatant airmen supporting RPA operations completed the Malasch Burnout Inventory-General Scale (MBI-GS). They also completed self-report items assessing demographic information, as well as levels and sources of occupational stress. The results of the study revealed the main sources of occupational stress were operational (i.e., long hours, low manning, shift work, human-machine interface difficulties, geographical location of work, concerns regarding career profession and incentives). Compared to noncombatants, Predator/Reaper operators had a higher incidence of emotional exhaustion while levels of cynicism (negative work attitude) and professional efficacy were lower. Global Hawk operators scored the highest on levels of emotional exhaustion and cynicism for all groups. The results of this study suggest there is a high incidence of emotional exhaustion/fatigue among RPA operators as a group in comparison to noncombatant airmen. Efforts to reduce occupational burnout should focus on operational stressors and be equally devoted to weapon- and nonweapon-deploying RPA operators.

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Since the onset of Operations Enduring (OEF) and Iraqi Freedom (OIF), the MQ-1 Predator and MQ-9 Reaper have served multiple roles in the gathering of imagery and streaming video to support ISR, close air support, and various precision strike operations. Such aircraft provide real time information to commanders for identifying fixed and moving targets, tracking enemy movements and assets, catching insurgents planting roadside bombs, locating and destroying weapons caches, directing and protecting ground forces, safeguarding convoys, tracking and/or eliminating enemy combatants, augmenting manned-strike missions, and surveying post-strike battle damage. USAF leadership lauds the role of RPA airframes as complex force multipliers with dynamic air combat capabilities while shielding crew members from traditional aviation-related threats to personal safety (Stulberg, 2007). As a result, the demand and number of MQ-1 Predator and MQ-9 Reaper combat air patrols (CAPs) continue to increase at a significant rate. The increase is reflective of USAF military operations becoming more reliant upon the decisive advantages of such airframes (Department of Air Force, 2005; Department of Defense, 2009).

Although RPA aircraft shield the operator from challenges associated with physically flying in a combat zone, it would be incorrect to conclude that RPA operators do not face demanding occupational stressors (operational and combat related). It is perceived by many that such military flying in support of combat and/or humanitarian missions is an extraordinary high-demand, high-precision, and high-risk profession. The occupational demands of engaging in long hours and rotating shift work to sustain "around-the-clock" RPA operations 24 hours a day, 7 days a week raise aeromedical concerns. The impact of such operations on the health and well-being of RPA operators is unknown. Recent aeromedical research (Tvaryanas & McPherson, 2008) found that RPA Predator operators experience greater levels of fatigue in comparison to ISR aircrew from manned airframes (i.e., AWACS, JSTARS). Such concerns can reasonably be perceived to elevate human factor contributions in RPA mishaps (Tvaryanas, Thompson, & Constable, 2006; Tvaryanas & Thompson, 2008). However, no empirical studies have been conducted to fully screen for occupational burnout among RPA crew members.

To fill the current gap in the literature, the purpose of this study is to (a) assess for the prevalence of occupational burnout among MQ-1 Predator and MQ-9 Reaper operators and identify the primary sources of stress, as well as (b) compare their rates of burnout to nonweapon-deploying RPA RQ-4 Global Hawk operators and noncombatant USAF military personnel supporting RPA operations. The results of this study aim to provide the general public, as well as medical and military command leadership, with objective data regarding occupational burnout and sources of stress.

1.1 Occupational Stressors

1.1.1 Operational Related

Operational stressors are defined as those related to sustaining operations. These include issues such as available manpower, equipment, and general resources needed to accomplish occupational tasks and objectives. There are several important operational stressors to consider when assessing the impact on the health and well-being of RPA operators. For many operators, stressors include, but are not limited to, the following: (a) long hours (e.g., 6 days on, 2 days off); (b) frequent shift work and shift changes, making it difficult to maintain domestic life routines; (c) geographically undesirable locations (e.g., long commute times, limited base resources in rural settings); (d) restricted or highly limited opportunities to fly manned

airframes to maintain flight hours necessary for flight pay or promotion for aircrew who cross-trained from a manned airframe; (e) restricted working environment (i.e., ground control station with limited freedom for mobility); and (f) poor ergonomics and temperature control of work stations. The long hours combined with rotating shift work can make it difficult to maintain a routine domestic life for many crew members. It stands to reason such stressors can lead to both physical and psychological distress when faced on an unending basis.

1.1.2 Combat Related

Combat stressors are defined as those that involve ISR and weapon-deployment missions that are in direct support to combat operations. For many operators, combat-related stressors include (a) precision targeting and destroying enemy combatants and assets where mistakes may come at a high price (e.g., inadvertently killing friendly ground forces and civilians); (b) exposure to hours of live video feed and images of destruction to ensure combatants have been effectively destroyed or neutralized; (c) making critical decisions regarding the identification of enemy combatants and providing effective force protection to ground troops to reduce casualties of friendly forces and civilian bystanders; and, lastly, (d) the unique demand for RPA operators to simultaneously juggle one's war fighter role while having to sustain one's domestic roles and responsibilities. This is a unique condition that RPA operators face on a daily basis that is reasonably perceived to accentuate occupational stress.

1.1.3 Career Related

Another considerable stressor is the "hold status" placed on aircrew who cross-trained into RPA operations (e.g., pilot or sensor operator crew positions). Due to the increasing CAPs in theatres of conflict, there is a significant shortage of RPA operators. As a result, many RPA operators were cross-trained into such operations to support the increasing demands in theatre. Such operators were informed their assignments were temporary and after 3-4 years they could return to their original career field. However, due to the increasing demand and long-standing surge in RPA operations, many pilots have been unable to return (Chappelle, McMillan, & McDonald, 2011). Furthermore, many have been placed on an indefinite "hold status," preventing them from returning to a manned aircraft in the near future. It is also important to note the RPA Predator-Reaper career field for officers and enlisted crew members is relatively new. As a result, there is limited career guidance and a limited developmental progression plan within the RPA community. The additional burden of being involuntarily assigned to (and on "hold" status in) a poorly defined career field with uncertain career progression may add to occupational stress for many crew members who cross-trained from manned airframe career fields.

1.2 Impact on Psychological Health

Based upon conversations with line commanders and flight medicine physicians at multiple USAF RPA installations, it is largely perceived that when the various stressors above are combined on a daily basis, there is a negative effect on psychological health. However, it is unknown at this time if weapon-deploying RPA operators are suffering high rates of occupational burnout. Many suggest they are at higher risk due to operational stressors but not due to combat-related stressors because such operators are shielded from the threats to personal safety. Others suggest that combat-related stressors (exposure to hours of live video deploying weapons and assessing battle damage) are causing operator burnout. Regardless of one's opinion on the sources of stress (combat vs. operational or a combination), there is a general consensus that weapon-deploying RPA Predator/Reaper operators are at high risk.

1.3 Purpose of the Study

The purpose of this study is to (a) determine the rates of clinically significant occupational burnout among Predator/Reaper operators, (b) gain an understanding of the most common and unpleasant occupational stressors (e.g., operational and combat related) among Predator/Reaper operators, and (c) compare Predator/Reaper operator scores to those of Global Hawk RPA operators (who do not engage in weapon-deploying missions) and noncombatant airmen who provide support to RPA operations.

2.0 METHOD

2.1 Participants

The purpose and methodology of the study were reviewed and granted exemption from the Wright-Patterson Air Force Base (WPAFB) Institutional Review Board (IRB) and assigned protocol number F-WR-2009-0063-E. The voluntary and fully informed consent of participants was obtained in accordance with 32 CFR 219 and AFI 40-402.

2.1.1 MQ-1 Predator/MQ-9 Reaper Operators

A total of 600 Predator/Reaper operators (pilots, sensor operators, and mission intelligence coordinators) participated in the study. There were 509 males and 87 females; four participants did not identify their gender. Twenty-one (3.54%) were between the ages of 18 to 20, 130 (21.92%) between 21 to 25 years of age, 156 (26.31%) between 26 to 30 years of age, 118 (19.90%) between 31 to 35 years of age, 138 (23.27%) between 41 to 45 years of age, and 30 (5.06%) were 46 years of age and above. Seven participants did not report their age. There were 253 (42.77%) officers and 339 (57.24%) enlisted; eight did not report their rank. A total of 225 (38.01%) were single and 367 (61.99%) were married. A total of 337 (56.17%) reported having children living at home.

2.1.2 RQ-4 Global Hawk Operators

A total of 264 Global Hawk operators (pilots, sensor operators, image analysts) participated in the study. There were 197 males and 64 females; three participants did not report their gender. Twenty-seven (10.23%) were between 18 to 20 years of age, 90 (34.09%) between 21 to 25 years of age, 75 (28.41%) between 26 to 30 years of age, 32 (12.12%) between 31 to 35 years of age, 31 (11.74%) between 41 to 45 years of age, and 9 (3.41%) were 46 years of age and older. There were 45 (17.05%) officers and 219 (82.96%) enlisted; three did not report their rank. A total of 125 (48.26%) were single and 134 (51.74%) were married. A total of 165 (61.17%) reported having children living at home.

2.1.3 Noncombatant Airmen

A total of 600 noncombatant airmen (officer and enlisted support/logistics personnel) supporting RPA units participated in the study. There were 534 males and 64 females; two participants did not identify their gender. Forty-five (7.53%) were between 18 to 20 years of age, 227 (37.96%) between 21 to 25 years of age, 130 (21.74%) between 26 to 30 years of age, 89 (14.88%) between 31 to 35 years of age, 101 (16.89%) between 41 to 45 years of age, and 9

(1.00%) were 46 years of age and older. Two participants did not report their age. There were 21 (3.51%) officers and 577 (96.49%) enlisted; two did not report their rank. A total of 287 (48.48%) were single and 305 (51.52%) were married. A total of 367 (61.17%) reported having children living at home.

2.2 Measures

Participants were given a demographic questionnaire to complete composed of several items that assessed their duty position, rank, gender, age range, marital status, children living at home, length of time serving as an RPA operator, average number of hours worked in a typical week, current work shift, and length of time since engaged in shift work. Space was provided for "write-in" comments regarding top sources of stress. The demographics section of the questionnaire was developed with the goal of sustaining anonymity to support genuine self-disclosure in a community where there is a strong cultural and community stigma regarding mental health problems.

2.2.1 Malasch Burnout Inventory-General Survey (MBI-GS)

The MBI-GS is a 16-item self-report survey assessing facets of occupational burnout (Malasch, Jackson, & Leiter, 1996). The facets include emotional exhaustion (e.g., fatigue), cynicism (negative work attitude), and professional efficacy (e.g., sense of occupational accomplishment). The emotional exhaustion and cynicism subscales are composed of five items, and the professional efficacy subscale is composed of six items. Construct validity with the MBI-GS has been established via principal component analyses with other constructs for each of the scales (Schaufeli, Leiter, & Kalimo, 1995). Stability coefficients range from 0.65 to 0.67 (Malasch, Jackson, & Leiter, 1996).

2.3 Procedure

Participation was solicited by line leadership (group, squadron, and flight commanders from active duty, National Guard, and Reserve units) via e-mail and in-person group meetings. Line leadership stated participation was completely voluntary and responses to the questionnaires would remain anonymous. Line leadership encouraged participation to better understand the main sources of occupational stress and current levels of distress in their units as well as to identify areas for change that could lead to improvements in health and morale.

The demographics questionnaire and MBI-GS were handed out in group settings at each participant's work site by flight medicine physicians, USAF psychologists, or mental health technicians from the medical clinic. The questionnaires were handed out following a brief description and purpose for participation. In general, it took participants 15 to 20 minutes to complete all the items on the survey. Participants who completed the survey were instructed on how to obtain the general results of the study and when such information would be available.

3.0 RESULTS

3.1 Occupational Stress

A summary of responses to the item assessing self-report ratings of occupational stress over the past 3 months from Predator/Reaper operators revealed 340 (57.34%) being "not at all" to "occasionally" stressed, 162 (27.32%) being "stressed," and 91 (15.34%) being "very" to "extremely" stressed. A summary of responses from Global Hawk operators revealed 130 (49.43%) being "not at all" to "occasionally" stressed, 82 (31.18%) being "stressed," and 51 (19.39%) being "very" to "extremely" stressed. A summary of responses from noncombatant airmen revealed 390 (66.21%) being "not at all" to "occasionally" stressed, 125 (21.22%) being "stressed," and 73 (12.40%) being "very" to "extremely" stressed.

3.2 Emotional Exhaustion-Fatigue

Overall, the mean emotional exhaustion scale score was 12.30 (standard deviation (SD) = 7.71) for RPA Predator/Reaper operators, 14.91 (SD = 8.40) for Global Hawk operators, and 10.47 (SD = 7.83) for noncombatant airmen from RPA support/logistic units. An analysis of variance assessing between group differences was significant $F_2 = 29.42$, $p<0.01$. Subsequent mean comparisons using t-tests for equal variance (Bonferroni t) were significant when comparing mean scores between Predator/Reaper and Global Hawk operators ($t = -4.43$, $p<0.01$) and between Predator/Reaper operators and noncombatant airmen ($t = 4.06$, $p<0.01$). The number and percentage of those who had a score of 20 or higher, indicative of emotional exhaustion, were 117 (19.5%) for Predator/Reaper operators, 87 (32.95%) for Global Hawk operators, and 94 (15.67%) for noncombatant airmen (see Figure 1).

3.3 Cynicism

The mean occupational cynicism scale score per groups was 9.55 (SD = 7.88) for RPA Predator/Reaper operators, 12.41 (SD = 7.91) for Global Hawk operators, and 10.92 (SD = 8.05) for noncombatant airmen from RPA support/logistic units. An analysis of variance assessing between group differences was significant $F_2 = 12.38$, $p<0.01$. Subsequent mean comparisons using t-tests for equal variance (Bonferroni t) were significant when comparing mean scores between Predator/Reaper and Global Hawk operators ($t = -4.88$, $p<0.01$), Predator/Reaper operators and noncombatant airmen ($t = -2.96$, $p<0.01$), and Global Hawk operators and noncombatant airmen ($t = 2.50$, $p<0.01$). The number and percentage of those who had a score of 20 or higher, indicative of a high level of negative work attitude, were 82 (13.67%) for Predator/Reaper operators, 55 (20.83%) for Global Hawk operators, and 102 (17.00%) for noncombatant airmen (see Figure 1).

3.4 Professional Efficacy

Overall, the mean professional efficacy scale score was 26.52 (SD = 6.32) for RPA Predator/Reaper operators, 24.99 (SD = 6.87) for Global Hawk operators, and 25.60 (SD = 7.47) for noncombatant airmen from RPA support units. An analysis of variance assessing between group differences was significant $F_2 = 5.21$, $p <0.01$. Subsequent mean comparisons using t-tests for unequal variance (Dunnet's t) were significant when comparing mean scores between

Predator/Reaper operators and noncombatant airmen ($t = 2.29$, $p<0.01$). Subsequent mean comparisons using a t-test for equal variances (Bonferroni t) were significant when comparing mean scores between Predator/Reaper and Global Hawk operators ($t = 3.18$, $p<0.05$). The number and percentage of those who had low levels of professional efficacy were 22 (3.67%) for Predator/Reaper operators, 12 (4.55%) for Global Hawk operators, and 42 (7.00%) for noncombatant airmen (see Figure 1).

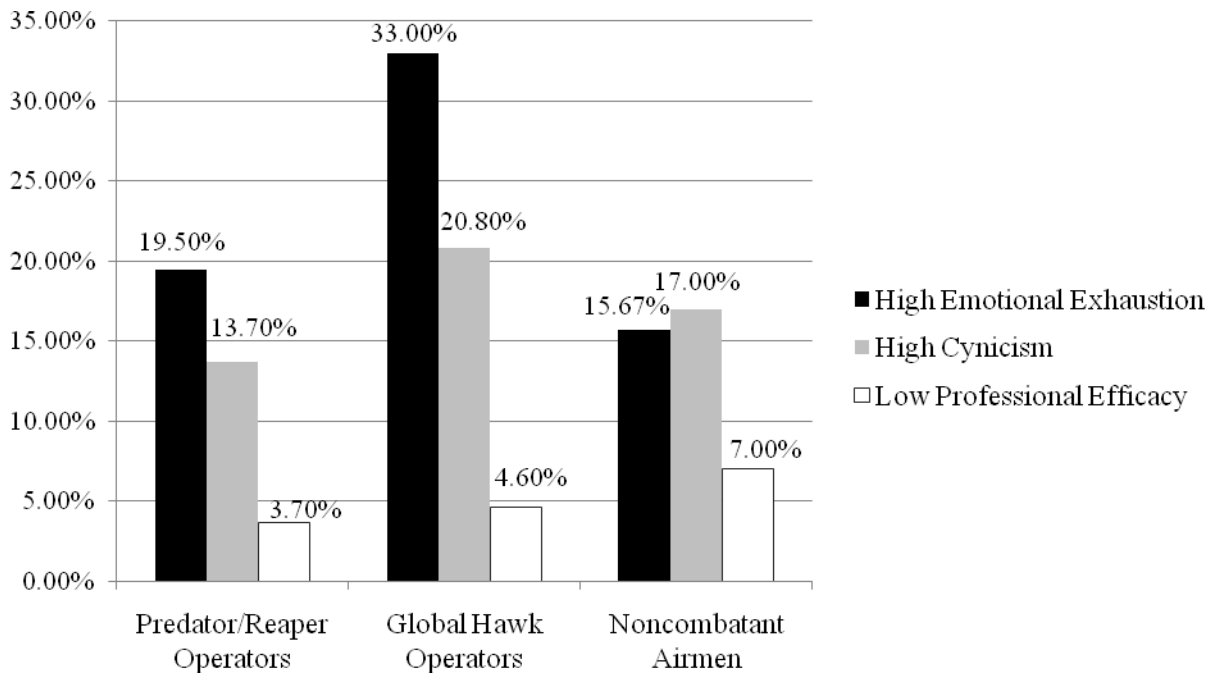

Figure 1. The percentage of Predator/Reaper and Global Hawk crew members and noncombatant airmen (officer and enlisted) who scored at (or above) the established clinical cut-offs for each occupational burnout scale.

3.5 Odds Ratios

A series of odds ratios was performed to assess the relationship between demographic variables (i.e., age, rank, gender, group, shift work, hours worked, length of assignment, etc.) and the likelihood of Predator/Reaper operators reporting high levels of emotional exhaustion/fatigue and cynicism. The results of the analyses revealed the following: (a) those who reported being "very" to "extremely" stressed were 16.5 times more likely to report high emotional exhaustion and 5.3 times more likely to report having a negative work attitude, (b) those who reported shift work affecting a "moderate" to "large" amount of their occupational stress was 11.3 times more likely to report high emotional exhaustion and 2.9 times more likely to report having a negative work attitude, (c) enlisted personnel were 4.4 times more likely to report high emotional exhaustion and 2.9 times more likely to report having a negative work attitude, (d) anyone in a

supervisory position was 3.0 times more likely to report a high level of emotional exhaustion (however, being in a supervisory position did not increase the likelihood of high cynicism), (e) anyone who reported poor quality of sleep over the past 2 weeks was 3.6 times more likely to report high levels of emotional exhaustion and 2.8 times more likely to report a negative work attitude, (f) anyone obtaining on average less than 6 hours of sleep prior to work was 2.0 times more likely to report high emotional exhaustion and 2.5 times more likely to report a negative work attitude, and (g) those describing their job duties as "very" or "extremely" difficult were 3.5 times more likely to report high emotional exhaustion (the difficulty level of job duties did not increase the likelihood of high cynicism). The variables of age and gender did not appear to increase the likelihood of reporting high levels of emotional exhaustion.

4.0 DISCUSSION

The first objective of this study was to assess for the main sources of stress among Predator/Reaper operators and to identify whether such stressors are operational and/or combat related.

A qualitative analysis of survey responses revealed the most commonly cited stressors associated with occupational stress (in order of prevalence) included (1) long hours (50+ hours a week) and low manning; (2) shift work (frequently changing shift schedules); (3) human-machine interface difficulties (ergonomic design of equipment and ground control station (GCS), inefficiencies in computer-based input and command procedures); (4) continual heightened vigilance to multiple visual/auditory sources of input, high precision nature of operations; (5) career progression concerns (i.e., undefined promotional path, unclear career incentives, unclear status regarding return to original career field); (6) geographical location (undesirable environmental location and/or long commute times equal to or longer than 1 hour); and, lastly, (7) difficulty juggling the demands of personal and domestic life with military operations. No respondents reported combat-related stressors within the top sources of their stress. As a result, the findings of this study indicate operational stressors are the most prevalent causes of occupational burnout among Predator/Reaper operators. While such findings are important for line commanders and medical personnel, they should be interpreted with caution when applied to an individual. That is, it is possible that many Predator/Reaper operators experience the deployment of weapons and exposure to live video feed of combat (i.e., destruction/death of enemy combatants and ground forces) as highly stressful even though it is not the main source of chronic, negative, daily occupational burnout for the career field.

The second objective of this study was to assess for the percentage of Predator/Reaper operators reporting facets of occupational burnout regarding high levels of emotional exhaustion and cynicism and low levels of professional efficacy.

Overall, the results of this study revealed that out of the group of Predator-Reaper operators, approximately 15% reported being "very" to "extremely" stressed. Furthermore, approximately 20% reported high levels of emotional exhaustion, 14% reported high levels of cynicism, and only 4% reported low levels of professional efficacy. The results of this study suggest the vast majority of Predator-Reaper operators do not experience such facets of occupational burnout. Nonetheless, one out of every five respondents reported experiencing emotional exhaustion/fatigue. Given the high demand, high operational tempo of such

operations, the prevalence of emotional exhaustion and self-report levels of occupational stress is concerning. It stands to reason that such conditions of occupational burnout increase the likelihood of an RPA mishap and/or mission failure (Tvaryanas, Thompson, & Constable, 2006; Tvaryanas & Thompson, 2008).

This study also identified factors that increase the odds of occupational burnout. The results revealed that shift work, sleep hygiene, supervisory duties, difficulty level of the job as perceived by the operator, and rank (being enlisted) all contributed significantly to emotional exhaustion/fatigue. Although such variables may be helpful for line leadership in identifying personnel at high risk for burnout, the most significant factor was self-report levels of stress. As mentioned in the results section, anyone who reported being "very" or "extremely" stressed was almost 17 times more likely to report high levels of exhaustion and five times more likely to report high levels of cynicism. The results of this study suggest that the most effective means for identifying those at high risk is to provide a supportive atmosphere that supports honest, genuine self-disclosure regarding perceived levels of occupational stress.

The findings also suggest that interventions aimed at operational stressors (e.g., improving shift work schedules, reducing long work hours, resolving human-machine interface difficulties, providing clear incentives and promotional career path for operators) are the best means to reduce levels of burnout and are more of a concern than combat-related stressors.

The third objective of this study was to compare rates of occupational burnout among Predator/Reaper operators with nonweapon-deploying RPA Global Hawk operators and noncombatant USAF personnel supporting RPA operations.

The group mean scores and incidence of emotional exhaustion were significantly higher for Predator/Reaper operators when compared with noncombatant airmen. This finding validates concerns among line leadership that Predator/Reaper operators appear more stressed than airmen within support and logistics units. Interestingly, despite their higher level of emotional fatigue, as a group such operators continued to experience a more positive impression regarding the nature and impact of their occupational duties. The group mean scores and incidence of high levels of cynicism were lower and the group mean scores and incidence of professional efficacy were higher among Predator/Reaper operators. This finding suggests an aspect of resilience and that such operators appreciate their occupational role in supporting reconnaissance and combat-related missions.

However, the group mean scores and incidence of emotional exhaustion and cynicism were significantly lower among Predator/Reaper operators in comparison to Global Hawk operators. Odds ratios further revealed Global Hawk operators were twice as likely to report high levels of occupational burnout in such areas. Further qualitative analyses of surveys revealed that 90% of Global Hawk operators who reported high levels of emotional exhaustion and cynicism were enlisted members (i.e., sensor operators and image analysts). Their reported sources of occupational stress were consistent with Predator/Reaper operators. Although enlisted Global Hawk operators do not engage in the direct deployment of weapons, their occupational environment is experienced as stressful due to various operational stressors. As a result, the findings of this study suggest that resources for promoting access to health care and well-being should be equally devoted to nonweapon-deploying RPA operators. As a group, they all suffer

the direct effects of operational stress, and combat-related stress is not the overriding cause of burnout in the three groups studied.

4.3 Limitations to the Study

The epidemiological nature of this study raises the concern for external validity, i.e., the generalizability of the results to all Predator/Reaper units. The foundation of generalizability is probability sampling. This study relies upon a convenience sample of RPA operators who were available to complete the survey during specific time periods and geographic locations. For instance, results of this study reveal that half of the participants who completed this survey worked the day shift. It is possible that if more participants from mid and night shifts completed the survey, the incidence of high levels of emotional exhaustion and cynicism would increase. Furthermore, there are likely unique differences between active duty, Air National Guard, and Reserve RPA units. As a result, the generalizability of the study findings across specific RPA units is limited.

An issue affecting internal validity is the degree to which the screening method employed in this study warrants definitive judgments about the psychological disposition and service needs of RPA operators. In the descriptive and epidemiologic context, evaluation of functional impact is particularly important. The results of this study did not fully address the functional impairment of occupational burnout nor did it address the likelihood that those experiencing burnout would leave the military after their commitment was served. The implicit assumption of epidemiologic studies, such as this one, is that airmen reporting high levels of occupational burnout are in need of care and less likely to continue in that career field. However, simultaneous assessment of functional impairment is needed to support the validity of this assumption, and a prospective study would be necessary to validate a higher rate of personnel leaving the service. It is possible that many RPA operators who endorse symptoms of distress remain functionally resilient and fit for duty.

The results of this study may also be affected by the time period in which questionnaires were obtained. For example, the higher incidence of emotional exhaustion among Global Hawk operators (as well as between RPA operators as a group and noncombatant airmen) may be more reflective of a temporary surge in operations combined with low manning and scheduling difficulties, which may have since resolved. Additional studies are needed to validate such findings.

It is also important to note that many Predator/Reaper units had undergone changes in their operations to improve health and well-being 2 to 3 months prior to administration of the questionnaire. Such changes included increased access to fitness facilities with improvements in the quality of available exercise equipment, increased access to family support services and activities, increased access to flight medicine and mental health care services, career field incentive pay, as well as efforts to provide a more defined training and career path for RPA operators. It is possible that without such changes the prevalence of emotional exhaustion and cynicism would have been much higher and possibly consistent with the rates of Global Hawk operators.

5.0 CONCLUSION

Overall, the findings suggest that the main sources of occupational stress are operational. Although combat-related stressors may have an impact on the health and well-being of individual RPA operators, the results of this study suggest that operational stressors (e.g., long hours, shift work, geographical location, career progression) are more of a concern among RPA operators as a group than combat-related stress (e.g., deploying weapons and exposure to live video feed of combat operations). Furthermore, operational stressors affect all career fields, and while medical resources can advise commanders and help individuals, on the whole, the findings of this study suggest policy and line commanders have the greatest influence on factors affecting occupational burnout.

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